

I made a short trip of two days, 400 km. eastward from Brno (it is the first locality of *Bothriomyrmex*), and by chance I found this ant on my first excursion, at Plesivec already mentioned.

When I found *Myrmica moravica* 4 years ago, I could not believe, that this striking species could have been overlooked by the entomologists, if being wider spread, so f.i. in the Danubian valley by the Hungarian myrmecologists. I considered, that this new species was an isolated form and explained it as a relic.

But now after having discovered *Bothriomyrmex* in my first excursion at random in the Slovakia, the part of ancient Hungary, 200 km. from Budapest, I think, that I have over-estimated the myrmecological exploration of the Pannonian valley. In conclusion I believe, that *the origin of Myrmica moravica must interest me still farther.*

Further Notes on *Polyommatus (Agriades) coridon* and allied species.

By ORAZIO QUERCI.

In volume 29, p. 241, of the *Entomologist's Record* of the year 1917, I published a few notes on *P. coridon*. Since that time I have been studying the problem, and I have made many attempts to get specimens from different countries of Europe.

The individuals which have most struck me were the Spanish ones, but as the insects I received from Spain had no exact data I was not able to come to a definite conclusion. I wanted to go and collect in Spain, but I met with many financial difficulties owing to the big expenses of such a trip.

At last, in May, 1924, I was able to go to Catalonia and Aragon with my wife; one month after also my son-in-law, Dr. Romei, came to Aragon with my daughter and granddaughter.

As soon as my whole family was at Albarracin, in the Province of Teruel, we arranged to collect at the same time in different surroundings; Dr. Romei and myself went to the high mountain mass near the boundary, between Aragon and Castille, while our wives remained to collect at Albarracin, which is on the plateau of Aragon.

To understand what I am writing it is necessary that I should give a name to the single forms which I have observed. I cannot enter in the embroiled and litigious question of nomenclature, and therefore I will use the peculiar names which have been applied to the local forms of Catalonia and Aragon.

After having caught an immense number of specimens, after having observed on the field the insect life, I have come to the conclusion that in Spain there are four different species, which have till now been considered to be simple forms of *P. coridon*. In this paper I shall name:—

P. (A.) hispana, H.S., the lowlands species from Catalonia, of which we have either collected, or seen in the Museum of Barcelona, a large number of specimens caught in May, in August, and still later in October. I believe that the smallest individuals of the second brood of that species seem to be identical with Herrich-Schäffer's figure of his "*hispana*."

P. (A.) arragonensis, Gern., is the most common blue which flies

near Albarracin, and of which we collected a large number of specimens, first in June-July and later in September.

P. (A.) caerulelescens, Tutt, is the scarce but striking species of which we caught specimens at Albarracin and Tramacastilla.

P. (A.) caelestissima, Vrtý., the *thetis*-like insect which is very common in a few spots of alpine surroundings of the Sierra de Albarracin. Dr. Verity applied the name of "*caelestissima*" to the blues, which I received from Dr. Selgas, who lived at Valdemoro de la Sierra, in Cuenca. Valdemoro is not far from Noguera, where we have found an immense number of specimens of *P. (A.) caelestissima*; the insects from Valdemoro are identical with those from Noguera.

On the first days of June, 1924, as soon as my wife and myself arrived at Albarracin, we caught one male and one female of what I name *P. (A.) caerulelescens*; the two specimens are now in the Museum of Barcelona. After that the species disappeared from Albarracin, and I suppose that all the pupae, being ready to emerge, were killed by a storm of hail, which destroyed also most of the *Zygaena* in Albarracin valley. In our first day's collecting the ground was full of larvae of *Lycaena* and *Zygaena*; after the hail we saw no more of them.

On June 24th, 1924, *P. (A.) arragonensis* began to emerge at Albarracin. My wife and daughter saw at least 700 specimens of them and collected about 300 males, but only 33 females, which sex seems to be very scarce. They caught also 30 males of *P. (A.) caelestissima*, which at first we supposed to be a simple aberration of *P. (A.) arragonensis*.

At Puerto de Orihuela, 5,000ft., 18 miles from Albarracin, 3,000ft., Dr. Romei and myself collected 24 males of *P. (A.) caelestissima*, but not even one specimen of the species of the *thetis*-like insect. We were surprised to find only the aberration, while the most common form was absent. We began to explore everywhere to find the spot where the blue might be less scarce.

After many and many attempts, on July 25th, 1924, in a small field near Noguera, 4,200ft., and 16 miles from Albarracin, we saw on the wing both males and females of *P. (A.) caelestissima*. On the following days the ground was full of those nice insects, while all the other blues, save *P. icarus*, were quite absent. In eight days we caught 400 males and 100 females of *P. (A.) caelestissima* and not even one *P. (A.) arragonensis*. At the same spot we found also five blue females, which are very different from "*syngrapha*," because the shape of wings, the ground colour of upperside, and the underside pattern is that of *P. (A.) caelestissima*, and not at all that of *P. (A.) coridon*.

We then began to understand that *P. (A.) caelestissima* is not the same species as *P. (A.) arragonensis*, and we went on to explore many other surroundings in order to find the two species flying together.

A stroke of luck led us to find a path, near Tramacastilla, 3,900ft., between Noguera, 4,200ft., and Albarracin, 3,000ft., where not only did we meet *P. (A.) caelestissima* and *P. (A.) arragonensis*, but also many specimens of *P. (A.) caerulelescens*. Most *P. (A.) caerulelescens* were already worn and we were able to get only ten males and nine females in perfect condition, about 80 males and 20 females of *P. (A.) caelestissima*, and 80 males and 10 females of *P. (A.) arragonensis* were also caught on the same ground.

The above numbers amounting to about 220 specimens of three

different species were taken during one week. We made our collecting at sunset, when returning home from Noguera. Most blues were taken with the pincers and not by the net, because *P. (A.) caeruleus*, *P. (A.) caelestissima*, and *P. (A.) arragonensis* were then sleeping on the stems.

Before taking the specimens we had time enough to observe them living, in their natural position; we noticed and discussed about the specific differences. We caught also several paired insects, and by this way we have learned to perceive specific differences between *P. (A.) caeruleus* and *P. (A.) arragonensis*.

P. (A.) caelestissima is out of discussion; it is so different an insect that we cannot understand why such a clever naturalist as the late Dr. Chapman should consider it to be a simple form of *P. (A.) coridon*. The differences between *P. (A.) arragonensis* and *P. (A.) caeruleus* are on the contrary less striking. When I saw my first individual of *P. (A.) caeruleus* sleeping on a stem amongst many specimens of *P. (A.) caelestissima* and *P. (A.) arragonensis*, I said to Dr. Romei: "This is a different species." After that we always observed with greatest care any individual before getting it; we had time enough to do so because the insect was at rest, and very rarely did it escape.

We named any single species looking at the underside and then took the individual; our own opinion was always confirmed by the ground colour of the upperside. After setting the lepidoptera our conviction is the same; at Tramacastilla are three *coridon*-like species with not even one doubtful or transitional specimen.

During the month of August, owing to the lack of rain and the damage made by the June hail, all insects were very scarce in Aragon, so that Dr. Romei went to Pajares, 4,000ft., in Asturias, on the Cantabrian Mts., 400 miles from Albarracin.

Besides many other species of Lepidoptera he caught also a *coridon*-like blue, which, at first glance, we were not able to identify. When we arrived home and had set those *Lycaenae* we noticed that they were intermediate between *P. (A.) caelestissima* from Aragon and the "blue" from the Sibillini Mts., in Italy, which till now we have named *A. coridon* race *sibyllina*, Vrtý.

We set out in one box a large series of similar insects from Noguera, Pajares, and Sibillini Mts. During three months we looked every day at those *Lycaenae* and, at last, we observed that the palest specimens from Noguera were rather like the most vivid blue specimens from Asturias, and that the palest blue individuals from Asturias are almost identical with the ones from the Sibillini. We observed also that the shape of the wings, the underside pattern, and both sides of the females were always the same in the three above named localities.

The boldest idea arose in my mind, and I dare to conclude that the species, which is so common at Noguera, lives not only in the high Aragon mass but also in alpine surroundings of Asturias, Apennines, and no doubt in all the high mountains of Southern Europe.

I do not know if the name of *P. (A.) caelestissima*, Vrtý., is suitable for that new species; I compared the specimens from Noguera with a few *Lycaenae* from Asia Minor, which are in Florence in the Rühl collection, and which Herr Rühl named *L. corydonius*, but, as I have said, I will not enter into a question of nomenclature because I am not able to do it.

According to my views, in Aragon live three different species of *coridon*-like butterfly; the fourth species of that set is *P. (A.) hispana*, of which we have either collected or seen many specimens from lowlands in Tuscany, Riviera, and Catalonia.

I was doubtful whether *P. (A.) aragonensis* was the mountain form of *P. (A.) hispana*, but when Mr. Ball paid me a visit at Florence I gave him a few specimens, and now he writes me from Bruxelles that *P. (A.) aragonensis* and *P. (A.) hispana* can never be the same species because the androconial scales are very different.

I feel sure that my own opinion of four species will not be easily admitted. I have however to remark that we have not drawn our conclusion on specimens of collections, which might have mistaken data, but we have observed natural phenomena in the field, and we have had to handle many hundred specimens.

Formicidae. A new genus.

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Sub-fam. *Myrmicinae*, Lep.

Tribe. *Myrmecini*, Ash.

Sub-tribe. *Myrmecini*, Em. (sens. str.)

Genus. ***Pseudopodomyrma***, gen. nov.

Between *Podomyrma*, Sm., and *Dacryon*, For. General appearance of *Podomyrma*, but the clypeus quite distinct.

♂. Monomorphic. Antennae 11-jointed, club 3-jointed.

Mandibles as in *Podomyrma*, thick, dentate, widely grooved along the inner border. Central portion of clypeus arched posteriorly, descending abruptly over the mouth, as in *Dacryon*. Lateral portion rises from the base of the mandible to a point a short distance from the frontal carinae; from this point it descends in a sharp curved ridge, rising again to join the frontal carinae, and limiting the antennal fossa in front. Beneath this ridge it is excavate. The points thus dividing the two halves of the lateral portion give the clypeus, viewed from in front, the appearance of being dentate. Frontal area indistinct. Head thick and massive.

Anterior angles of pronotum dentate, promesonotal suture absent; there is a moderately deep impression between the mesonotum and the epinotum, where the thorax is constricted.

Petiole as in *Podomyrma*, with an elongate node; postpetiole rounded. Declivity of epinotum with a flange on each side of the insertion of the petiole.

Pseudopodomyrma clarki sp. nov.

♂ L. 4.4mm. Dark reddish brown; dorsum of head and gaster almost black; mandibles, lateral portions of clypeus, neck, articulation of pedicel, and legs (sometimes also the sides of pronotum), dark castaneous.

Terminal and outer border of mandibles with a few long yellowish hairs, a pair of fairly long blunt hairs close together at the centre of the anterior border of clypeus, one each side of the central portion, one at each tooth of the lateral portion, and one above the antennal sockets; a pair on the occiput, a pair at the junction of pro- and mesonotum, a pair at posterior border of postpetiole, and a few on the apical borders of the gaster. All these hairs are of the same character, of even thickness and blunt at apex. Antennae feebly pubescent, the joints of the funiculus, except the apical, with a few blunt hairs; legs and gaster with a scattered pubescence.

Mandibles with five teeth, the two apical large and pointed. Clypeus with a faint carina reaching from the posterior border to the centre, the anterior border depressed in the middle and emarginate, the border convex on each side of the emargination. (For rest of clypeus see characters of genus). Frontal carinae short, wide apart. Scapes slightly curved, swelling to the apex where they are nearly twice as broad as at base. They reach to rather less than twice their